National Aeronautics and
Space Administration

George C. Marshall Space Flight Center
Marshall Space Flight Center, AL 35812

Reply to Attn of: DA01

TO: Distribution

FROM: DA01/A. G. Stephenson

SUBJECT: Minutes of the MSFC Quality Council Meeting

The MSFC Quality Council (MQC) met on Tuesday, June 5, 2001. The meeting began at 1:05 p.m., in Building 4200, Conference Room P110. The roster of attendees for the meeting is attached as Enclosure 1. The presentation charts for the meeting are included as Enclosure 2.

OPENING REMARKS (S. SAUCIER/DE01):
S. Saucier/DE01 informed the group that A. Stephenson/DA01 would be late for the meeting. However, J. Kennedy/DD01 would conduct the meeting. The agenda for the meeting is on page 4 of Enclosure 2. The overall status of the Marshall Management System (MMS) was discussed. The presentation chart is on page 5 of Enclosure 2.

S. Saucier/DE01 stated that the Center is doing a good job. He commended the Marshall Management System Implementation Team and the organizations for their efforts. Overall, the Marshall Management System is working well and is in compliance with the ISO 9001 standard.

We have made significant improvements in several areas, including timeliness of corrective actions and participation in document reviews. The audits are not finding any major problems with our system. The team has done a tremendous job at getting the documents ready for the ISO 9001:2000 transition.

STATUS OF NQA TRIENNIAL AUDIT FINDINGS (D. MILLER/QS40):
National Quality Assurance (NQA) performed the first triennial audit of MSFC February 6-8, 2001. During the visit, the NQA auditor documented one minor nonconformance and recommended the Center for continued registration. Corrective action has been completed.

The presentation charts are included as pages 7-8 of Enclosure 2.
MQC ACTION ITEMS STATUS (D. MILLER/QS40):

Don Miller presented the six open MQC Action Items. The presentation charts for the MQC Action Items Status are included as pages 10-15 of Enclosure 2.

MQC – 0020 - Review the Internal Task Agreement process at the Center.

This action was pending the release of MPG 1230.1 concerning the CWC process. The document has been through the full review and was approved by the Directives Control Board (DCB) on April 10, 2001. J. Kennedy/DD01 asked the directorate if everyone is in agreement with the CWC process as recently approved. Everyone was in agreement with the document. This action was closed.

MQC-0037 – Re-assign the task (of working the NQA NCR) to someone else and get the generic nonconformance related to back-up procedures closed.

NQA verified closure of the nonconformance report during the triennial audit. This action was closed.

MQC-0038 – Provide a list of excessively old NCRs to the Center Director and to the responsible organization.

Status of the NCRs was presented as part of the Internal Audit Report. The number of open and late NCRs has decreased significantly. The average age has also decreased, and the oldest NCR is currently 91 days old. (See pages 17, 19-20 of Enclosure 2.) This action was closed.

MQC-0039 – Using January 15, 2001 as a target date, OPRs are requested to work on their documents and assess the impact of the revised standard to their documents. After this has taken place, a meeting of the MQC is to reconvene to decide whether to proceed with the implementation and registration of ISO 9001:2000. Meanwhile, managers should be discussing the impact with their organization.

This item was discussed in a subsequent Center Staff meeting and a decision was made to proceed with the implementation and registration to ISO 9001:2000. This action was closed.

MQC-0040 – Create a process/document to educate the workforce of the impact of ISO 9001:2000.

An overview of the ISO 9001:2000 changes was presented in a Center staff meeting, and has been made available on the ISO web page for briefings within the Directorates. Most of the organizations have conducted these briefings already, and others are being scheduled. This action was closed.

MQC-0041 –Identify those continual improvement processes (that have been completed) throughout the Center. Select three of those processes and have the employee/manager who

came up with the process come and present those processes. Allow those individuals an opportunity to show their innovative hard work.

One presentation was provided as part of the meeting agenda. M. Haynes/AD23 reported on continuous improvements in the MSFC calibration program as a result of ISO 9001 registration. (See pages 46-51 of Enclosure 2.) Two other presentations were scheduled on the agenda, but were held due to lack of time. The presenters will make their presentations at a later time. This action remains open.

INTERNAL QUALITY AUDIT REPORT (W. WOODS/QS40):
Warren Woods presented the status of the internal audit program. There have been significant improvements in the age and status of NCRs. At the time of the last MQC in December, there were 45 open NCRs and six were late. As of today, there are thirteen open NCRs and none are late.

Staffing is still an issue. Problems arise when personnel move to other organizations or retire after being committed to support an audit. Also, auditors sometimes pull out just before or during an audit due to workload issues.

The requirement for organizations to arrange for replacements for auditors was discussed at length. S&MA has had to provide manpower to ensure the audits were covered when organizations did not provide replacements. J. Kennedy/DD01 stated that each organization should supply their committed auditor support.

ACTION:
Organizations are to work together to make sure that they continue to support the audit program. If the organization has a person that has already been assigned to an audit and the auditor changes organizations, the responsible organizations should communicate with each other to ensure the auditor doesn't automatically drop from the audit.
(All Organizations and W. Woods/QS40, Due: Report at next MQC)

Additional problems sometimes result from a lack of auditor skills. Some auditors don't communicate or comprehend well, some have agendas, some have an attitude and some are not comfortable auditing. Auditor evaluations are written after each audit, and there are times that individuals are not assigned to another audit. S. Saucier/DE01 suggested that evaluations should be communicated to the directorate head.

J. Kennedy/DD01 added that the Directorate should look at the competence of the auditors they are recommending. Directorates should emphasize that auditing is an important job. This is not a job we should be putting just anybody in. Everyone should take the job seriously.

ACTION:

The Audit Manager to provide feedback on support and communicate the performance of auditors to their respective directorate managers. Reports should communicate positive and negative issues concerning the auditor's support and capability.
(W. Woods/QS40, Due: Report at next MQC)

The status of open NCRs was presented. At the time of the last MQC, there were several NCRs that were 400+ days old. Today, there are only thirteen open NCRs and the oldest age is less than 100 days.

There was a discussion on the number of elements in the 1994 revision of the ISO 9001 standard versus the new eight clauses. Although there are only eight clauses in the revised standard, those clauses still "house" the twenty elements. In fact, NQA will actually use 26 element groupings and they will audit MSFC using this approach.

The categories of official non-conformances were discussed. Details for the top six categories of non-conformances are included in the charts.

Other concerns were expressed regarding input to the metrology database and a lack of training plans. Use of the Quality System Deficiency Notice (QSDN) was discussed. Recurring/generic problems should be documented in the QSDN system for corrective action.

There was a suggestion that when an employee is detailed from one organization to another, there should be a checklist of things to do and perhaps notifying the calibration lab would be one of those things to check off.

J. Kennedy/DD01 emphasized the need to make every effort to fully support the internal audit program. The Audit Manager was directed to bring any issues to the attention of the appropriate management in order to resolve them.

The presentation charts are included as pages 17-23 of Enclosure 2.

CORRECTIVE AND PREVENTIVE ACTION PROGRAM (J. MCPHERSON/HEI):
The oldest RCAR, initiated in August 1998, has been worked and is in the process of being closed. The trend in average age will go down after this one is closed.

It appears that not many DR/QSDN/QUALCOMMs are being submitted. We are either doing a better job or people are ignoring the system. It is probably a little bit of both.

There was some discussion on customer satisfaction and the current Quality Comment system. The system is being used for both internal and external customers, although the registrar is only concerned with external customers.

We have had five responses to ALERTS we have issued since the last MQC. Major accomplishments include a web-based ALERT distribution, response, and tracking system on-line; clarification of ALERT contacts for MSFC Organizations and Projects; and, training/orientation for users on the new application.

The positive trends in the corrective action program and in the audit program were attributed to the weekly updates with the Management Representative (S. Saucier). Additionally, HEI has dedicated one person to the corrective action program.

The presentation charts are included as pages 25-26 of Enclosure 2.

NEW AGENDA ITEMS (M. DEMURRAY/HEI AND VARIOUS):
There are three new agenda items required by the ISO 9001:2000 revision for MQC meetings. Two of these items have always been discussed. The one item we have not covered is process performance and product conformity. At this time, data is not readily available to present for MQC review, although several existing systems for determining process performance and product conformity have been identified.

ACTION:
S&MA assigned to lead a team to define a process for collecting data concerning the Center's process performance and product conformity. SMO and Project Offices should be included on the team.
(A. Goodson/QS01, Due: August 1, 2001)

The status of updates to Directives for the ISO 9001:2000 revision was presented and discussed. Only 18 documents required some change. All except three of these have been completed.

Presentation charts are included as pages 28-31 of Enclosure 2.

CONTINUAL IMPROVEMENT TEAM STATUS REPORT (J. CARTER/AD01):
J. Carter/AD01 presented the Continual Improvement Team status. The team has reviewed the ISO standard requirements and the activities already in place at the Center. The team will be proposing a new directive to address this topic by June 20.

The presentation charts are included as pages 33-37 of Enclosure 2.

CUSTOMER SATISFACTION TEAM STATUS REPORT (S. NONEMAN/FD35):
S. Noneman/FD35 presented the Customer Satisfaction (CS) Team status. The team found that there are a lot of good things happening around the Center and plans to capitalize on those existing activities. The team will be proposing a new directive to address this topic by June 20.

The presentation charts are included as pages 39-41 of Enclosure 2.

J. Kennedy/DD01 stated that going forward with the revised standard is a really good thing, if for no other reason than the new customer satisfaction and continual improvement requirements.

METROLOGY STATUS (D. MILLER/QS40):
The Center is doing well in continuing to minimize the number of delinquent category 1 items. Out of a total of 9,728 category 1 items, there are only 35 late items. There was some discussion as to what an acceptable level should be. Although there is no evidence that equipment is being used past the calibration due date, the general consensus was that there should be zero tolerance for overdue category 1 calibrations. (Note: Equipment that comes due for calibration during the middle of a test can be used until completion of the test.)

The presentation chart is included as page 43 of Enclosure 2.

ACTION:
Develop a plan to minimize overdue calibration. There should not be any delinquent category I items.
(S. Saucier/DE01, Due: June 13, 2001)

DIRECTIVES CONTROL BOARD (DCB) REVIEW (D. MILLER/QS40):
The DCB review participation by most organizations has improved over the last few months. There was a discussion about the necessity for review of directives.

The presentation chart is included as page 44 of Enclosure 2.

ACTION:
All Organizations are to review Directives out for DCB review and provide an appropriate input to the DCB system. All Organizations shall also ensure that DCB alternates are assigned and that DCB activities are supported when the DCB member is unable to support.
(S. Saucier/DE01, Due: Report at next MQC)

CONTINUAL IMPROVEMENT PRESENTATIONS

CONTINUOUS IMPROVEMENT IN THE MSFC CALIBRATION PROGRAM AS A RESULT OF ISO 9001 REGISTRATION (M. HAYNES/AD23):
M. Haynes/AD23 discussed the improvements to the calibration system since the implementation of ISO 9001 at the Center.

The presentation charts are included as pages 46-51 of Enclosure 2.

MSFC PROPERTY IMPROVEMENT EFFORTS (P. MEFFORD/AD41) &
PROJECT DOCUMENTATION SYSTEM (PDS) (G. MCGRIFF/ED43):

Due to time limitations, J. Kennedy/DD01 recommended that these presentations be made at a later date. The presenters were asked to come back at another time so that they would have sufficient time to discuss their accomplishments without being rushed.

The presentation charts are included as pages 52-54 and 55-58 of Enclosure 2.

RECOMMENDATION FOR IMPROVEMENTS (S. SAUCIER/DE01):
Recommendations for improvements include continuation of the transition to ISO 9001:2000 with a focus on implementing continual improvement and customer satisfaction. Reporting on product conformity and process performance is another new issue in the ISO revision. Other recommendations are to improve commitments for auditor participation and DCB review participation.

The presentation charts are included as pages 60-61 of Enclosure 2.

NEXT SURVEILLANCE AUDIT (S. SAUCIER/DE01):
The elements to be included in the next surveillance audit by NQA were presented, as well as information related to the pre-assessment for full scope and the ISO 9001:2000 revision. The NQA checklist has been provided to the organizations. Additional training in specific areas is being planned.

The presentation charts are included as pages 62-64 of Enclosure 2.

CHALLENGES AHEAD (S. SAUCIER/DE01):
The biggest challenges ahead are to continue to develop the continual improvement and customer satisfaction processes and to provide training. These items are key to our readiness for the pre-assessment audit in August.

CLOSING REMARKS (A. STEPHENSON/DA01):
A. Stephenson/DA01 commended the continuous improvement activity and challenged the team to continue with the customer satisfaction efforts. Each directorate should focus on keeping these two things in front of their employees. We should continue to ask ourselves where we can improve and are we continuing to satisfy our customers.

Action items were reviewed. No other items for record were discussed at the meeting. K. Warner/QS40 kept the meeting minutes.

Original Signed by

A. G. Stephenson
Chairman
MSFC Quality Council

Enclosures

Distribution:
Council Members
Meeting Attendees

ISO 9000 MSFC QUALITY COUNCIL MEETING

DATE: TUESDAY, June 05, 2001 LOCATION/ TIME: BLDG. 4200/P110, 1:00 p.m.

MEETING ATTENDANCE: [Please Check (X) Next to Your Name to Record Meeting Attendance.]

NAME	ORGANIZATION	PHONE	FAX

Director's Office

NAME	ORGANIZATION	PHONE	FAX
Art Stephenson	DA01	544-1912	544-5228
James W. Bilbro	DA01	544-3467	544-8345
Bob L. Sackheim	DA01	544-1938	
Jim Kennedy	DD01	544-1914	544-5896
Sid Saucier	DE01	544-1919	544-7920
Axel Roth	DE01	544-0451	544-5590

Center Operations Directorate

NAME	ORGANIZATION	PHONE	FAX
Sheila Cloud	AD01	544-0120	544-5893
Jim Carter	AD01	544-6630	544-7920
Linda Carpenter	AD02	544-8236	544-5867
Dan Adams	AD10	544-1614	544-8259
Clark Boaz	AD20	544-4923	544-4435
Michael W. Haynes	AD23	544-7933	544-8890
Lana Cucarola	AD30	544-0096	544-8752
Annette Tingle	AD30	544-4522	544-8752
Amanda Rasco	AD33	544-4511	544-8752
Deborah Wills	AD33	544-4525	544-8610
Lisa Adkins	AD40	544-7546	544-6570
Polly Edwards	AD50	544-4536	544-2101

Customer & Employee Relations Directorate

NAME	ORGANIZATION	PHONE	FAX
Tereasa Washington	CD01	544-7491	544-6420
Susan Cloud	CD01	544-5377	544-2610
Pat Shultz	CD20	544-7559	544-4809
Caroline Wang	CD30	544-3887	544-6030

Engineering Directorate

NAME	ORGANIZATION	PHONE	FAX
Bill Kilpatrick	ED01	544-1000	544-5896
Terry Roberts	ED16	544-3717	544-0900
Jim Lindsay	ED27	544-1301	544-0236
Dawn Cross-Stanley	ED35	544-1835	544-5877
Richard Lamb	ED37	544-1037	544-4307
Sonya Hutchinson	ED42	544-3312	544-5178
Herb Shivers	ED43	544-8903	544-4155
Karen Iftikhar	ED44	544-3653	

Flight Projects Directorate

NAME	ORGANIZATION	PHONE	FAX
Jan Davis	FD01	544-0455	544-7580
Jackie Steadman	FD10	544-1940	544-5590
Jack Stokes	FD22	544-1764	544-5194
Michael Nelson	FD41	544-2059	544-9353

Chief Counsel

✔ **Bill Hicks**	**LS01**	**544-0010**	**544-0258**
✔ Jim Frees	LS01	544-0123	544-5867
Abbie Johnson	LS01	544-0014	544-0258

Space Shuttle Projects Office

Alex McCool	**MP01**	**544-0718**	**544-2432**
Jodie Singer	MP01	544-0612	544-4155
Jeff Spencer	MP21	544-7498	544-7713
John Pea	MP71	544-8437	544-5799

Equal Opportunity Office

Charles Scales	**OS01**	**544-4927**	**544-2411**
Willie Love	OS01	544-0088	544-2411
Elia Ordonez	OS01	544-6658	544-2411

Procurement Office

Steve Beale	**PS01**	**544-0257**	**544-3214**
Byron Butler	PS01	544-0253	544-4400
Ray Woods	PS10	544-0384	544-3223
Jerry Williams	PS10	544-0295	544-4401

Safety and Mission Assurance

Amanda H. Goodson	**QS01**	**544-0043**	**544-2053**
Jim Ellis	QS01	544-0721	544-3893
Ron Mize	QS40	544-2485	544-8101
Terry Hamm	QS10	544-7402	544-3241
Don Miller	QS40	544-8361	544-4857
Mark Strickland	QS10	544-7432	544-4155
Kerry Warner	QS40	544-7350	544-4155
Warren Woods	QS40	544-2275	544-5685

Office of Financial Officer

Dave Bates	**RS01**	**544-0052**	**544-0635**
Sandy Coleman	RS01	544-0795	544-3536
Frank D. Mayhall	RS01	544-7266	544-4479
Peggy Williamson	RS24	544-3357	544-5863
Sharal Huegele	RS30	544-7286	544-9055

Science Directorate

Ann Whitaker	**SD01**	**544-2481**	**544-5877**
Tom Fleming	SD01	544-3962	544-5975
James Grisham	SD01	544-9607	544-8369
Robin Henderson	SD10	544-1738	544-8639
Lloyd Love	SD20	544-7702	544-2559
Roger Chassay	SD30	544-1969	544-5975
Tom Dollman	SD40	544-6568	544-8500
Ed Reichmann	SD50	544-7603	544-5800
Tim Miller	SD60	922-5882	922-5823
Diane Samuelson	SD60	922-5832	922-5723
Joe Stroud	SD70	544-3529	544-2659
Roy Young	SD70	544-4965	544-2659
Don Thurman	SD80	544-1908	544-9243
Wes Darbro	SD92	544-7742	544-2559

Space Transportation Directorate

(handwritten: SAK) **Dennis Kross**   **TD01**   **544-3551**   **544-4103**

(handwritten: N TRAVEL →)

	Name	Org	Phone	Fax
	David Harris	TD03	544-0057	544-3960
	James Wyckoff	TD03	544-7922	544-1821
	Ed Reske	TD64	544-1753	544-1215
✓	Nikhat Shahzad	TD15		

Space Launch Initiative

	Name	Org	Phone	Fax
(sig)	**Dennis Smith**	**SLI**	**544-9119**	**544-4103**
(sig)	Dan Dumbacher	SLI	544-0171	544-4051

Systems Management Office

	Name	Org	Phone	Fax
	Bob McKemie	VS10	544-2266	544-5178
	Neil Rainwater	VS10	544-8918	544-5178

Contractors

	Name	Org	Phone	Fax
MD	Mary DeMurray	HEI	544-1342	544-4470
	Don Hartley	HEI	544-8981	544-4470
(Jm)	John McPherson	HEI	544-7479	544-9257
	Randy Reed	HEI	544-6056	544-4470
	Sid Smith	HEI	544-5930	544-4470
(sig)	Jim Thomason	HEI	544-3303	
	Jeff Robinson	SCSC	544-4589	544-8990

VISITORS

NAME	ORGANIZATION	PHONE	FAX
Steve McKinnon	FD30	4-0241	
Steve Noneman	FD35	4-2048	4-0603
Pam Mefford	AD41	4-3762	4-6570
Patrick Richardson (Sharp)	MP71	4-6370	4-5799
Scott Schützenhofer	MP71	4-8496	4-5799
Michael McLean	CD40	4-0397	
Steve Durham	CD40	4-0390	4-0007
Gary McGriff	ED43	4-9097	
Cindy Legowik	AWI/ED43	4-4340	

Marshall Quality Council

June 05, 2001

Opening Remarks

Art Stephenson
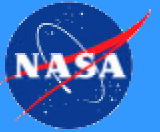
Opening Remarks

Sid Saucier

- **NQA Surveillance Status** (Don Miller)

- **MQC Action Items Status** (Don Miller)

- **Internal Quality Audit Report** (Warren Woods)

- **Corrective and Preventive Action Program** (John McPherson)

- **New Agenda Items as result of 2000 revision** (Mary DeMurray)

  - Process Performance & Product Conformity

  - Changes that can affect Management System

  - Recommendations for Improvement

- **Closing Remarks** (Sid Saucier)

- **Other**

Overall Status of the Marshall Management System

- Overall the suitability and effectiveness of the Marshall Management System (MMS) is working well
    - Made improvements in NCR timeliness
    - Document review and approval process is working well and getting better
    - Internal and external audits indicate no major problems with the MMS
    - Tremendous amount of progress by the Organizations towards the up-coming pre-assessment to ISO 9001:2000 revision

Status of NQA February 2001 Triennial Audit Findings

Don Miller

Status of NQA February 2001 Triennial Audit Findings

Don Miller

- NQA Triennial Audit Findings

  Observations   0

  Minor Nonconformances   1

  Carry-Overs   0
  _____

  Total Findings   1

- Corrective action has been completed.
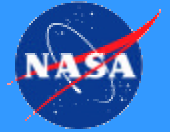
- Found RCARs delinquent without extension date applied for, i.e., QD35-RCAR88 – last action requested was 8/31/00 (still open), QD110-RCAR147 – asked for extension 8/10/00, extension rejected (still open), QD69-RCAR116 has been on the delinquent list since June/00 (still open), etc.

- Corrective Action taken:
  - Status all open RCARs weekly in MMS team meetings
  - Additional emphasis has been placed on timely resolution
  - Delinquent items are escalated to management as necessary
  - MPG 1280.4 , "MSFC Corrective Action System," has also been revised accordingly.

MQC Action Items Status
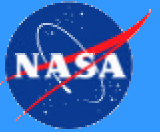
Don Miller

MQC Action Items Status *(cont)*

MQC-0020 - Don Miller

MQC-0020 *- Review the Internal Task Agreement process at the Center. Assigned to S. Saucier /DE01 & D. Bates / RS01.*

- Status - MPG 1230.1, "Center Resources Management Process" was approved by the DCB on 04/10/01

- Recommend closure of this MQC action item

MQC Action Items Status *(cont)*
MQC-0037 - Don Miller

MQC-0037 – *Re-assign the task (of working the NQA NCR) to someone else and get generic nonconformance related to back-up procedures closed. Assigned to TD01.*

● Status:

   This item was reassigned and closed in a timely manner. A follow-up was performed by NQA during the last Audit and closed

● Recommend closure of this MQC action item

MQC Action Items Status (cont)
MQC-0038 – Don Miller

MQC-0038 – *Provide a list of excessively old NCR's to the Center Director and to the responsible Organization. Assigned to W. Woods /* QS40

- Status of NCRs will be shown in detail in the Internal Audit Report

- After review, we recommend closure for this MQC Action Item

MQC Action Items Status *(cont)*

MQC-0039 - Don Miller

MQC-0039 – *Using January 15, 2001 as a target date, OPRs are requested to work on their documents and assess the impact of the revised standard to their documents. After this has taken place, a meeting of the MQC is to reconvene to decide whether to proceed with the implementation and registration of ISO 9001:2000. Meanwhile, managers should be discussing the impact with their organization. Assigned to all Organizations.*

● This action item was discussed in a subsequent Center Staff meeting and a decision was made to proceed on with ISO9001:2000

● Recommend closure of this MQC action item
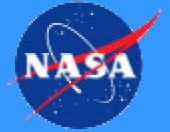
MQC-0040 – *Create a process/document to educate the workforce of the impact of ISO 9001:2000*

● Marshall Star Article was published

● An overview is posted on the ISO 9000 Website

● The overview presentation was presented in the Center Director's Staff meeting. An action was given by the Center Director to ensure all people receive the overview

● Recommend closure of this MQC action item

MQC-0041 – *Identify those continuous improvement processes (that have been completed) throughout the Center. Select three (3) of those processes and have the employee/or manager who came up with the process come and present those processes. Allow those individuals an opportunity to show their innovative hard work.*

- Three presentations have been chosen and will be presented in today's MQC

- After presentations, recommend closure of this MQC action item

- This item will be added to the agenda for future MQC meetings

Internal Quality Audit Report

Warren Woods

Internal Quality Audit Report *– Warren Woods*

- **Five Internal Audits since the last MQC**

- **2001 internal audits are full scope and ISO 9001:2000**

- **Status of Open NCRs (See next chart)**

  - 13 Open Non-Conformance Reports (NCRs)

  - None are late as of 6/4/01

- **Staffing has improved, but continued effort is required**

  - Team member names are coming in late in the process

    - Organizations are having problems naming auditors (not enough trained auditors, trained auditors are busy)

    - When an auditor has to pull out, takes time to replace them

- **Staffing has improved, but continued effort is required (cont)**

  – Due to employee migration, supplied names are no longer valid

    • Audit slots are based on organization and do not follow the individual when they move, retire, or take on new responsibilities

  – Auditor skills (communication, comprehension, documentation, ability and willingness to follow instructions and prepare for the audit)

    • Auditors who don't communicate or comprehend well

    • Auditors who "don't have time" to do this

    • Auditors who "are not comfortable" auditing (sometimes not motivated)

    • Auditors with agendas
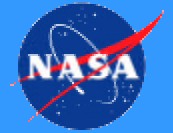
Internal Quality Audit Report – *Warren Woods*
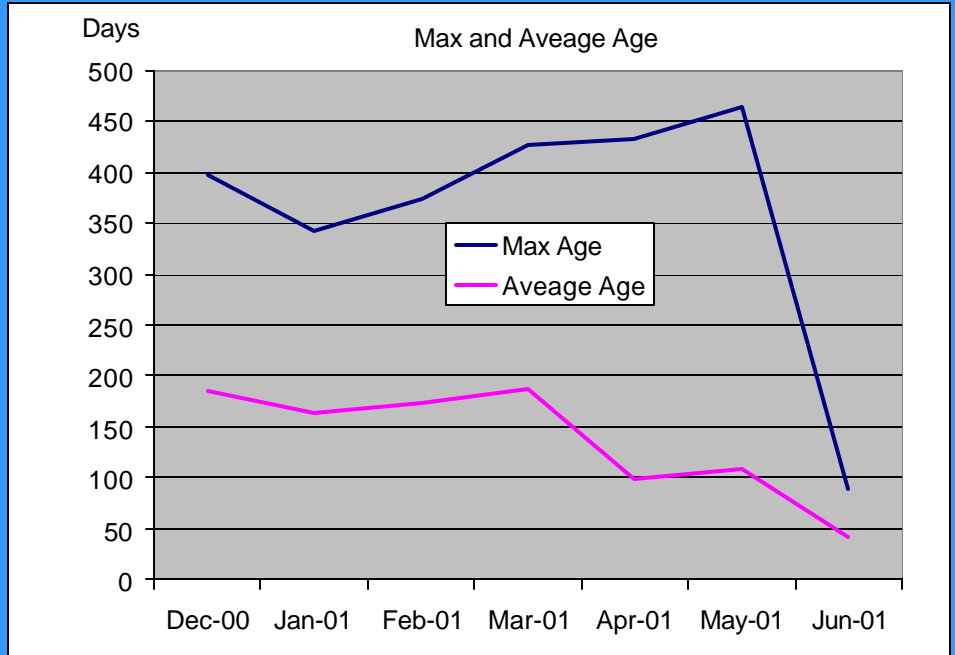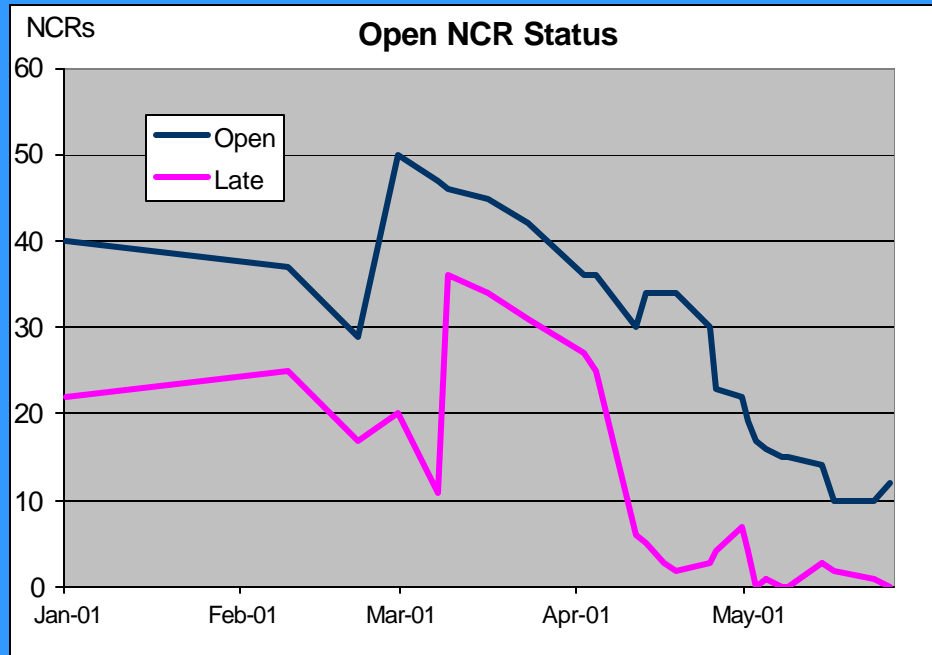
Primary reasons for most late items:

1. Missed target completion dates
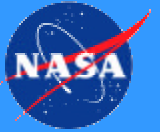
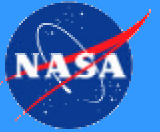2. Auditors verification for closure is overdue

NCR Days Old and Remaining Time Chart

Days Old is the total age of the NCR.
Remaining Time is the time remaining to complete current step.
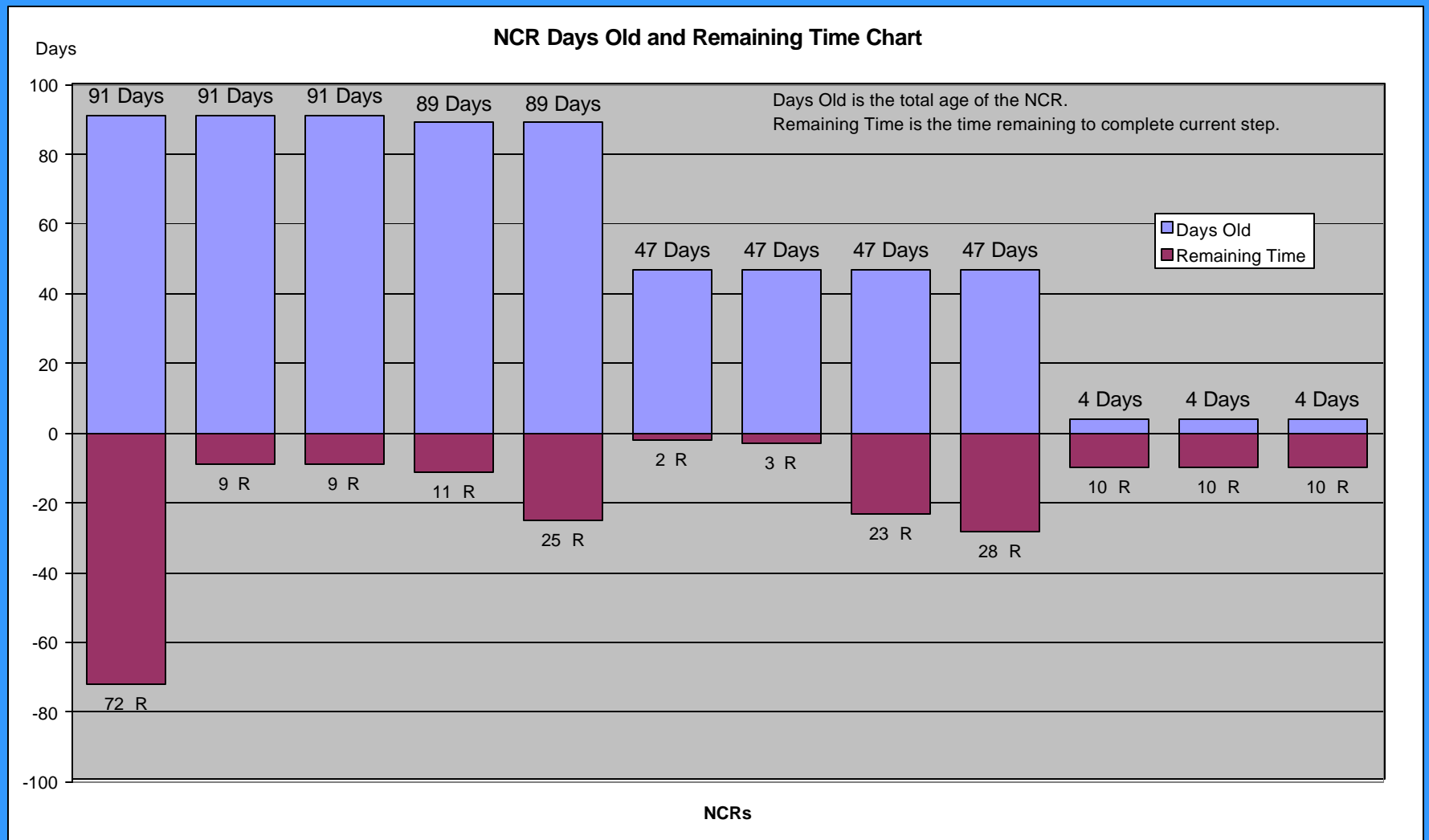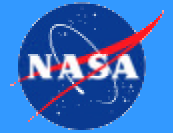
Category of Official Nonconformances

- 4.16 Quality Records

  – Lack of Draft Records Plans

  – Missing or Unidentified Records

- 4.5 Document and Data Control

  – References in documents or on web not kept up to date

  – References to obsolete document

- 4.6 Purchasing

  – Not maintaining records as required

Internal Audit Findings (cont) – *Warren Woods*

- 4.11 Metrology

    – Maintenance of the database

- 4.18 Training

    – Lack of records

    – Undocumented training requirement

- 4.21 Safety

    – Missing records
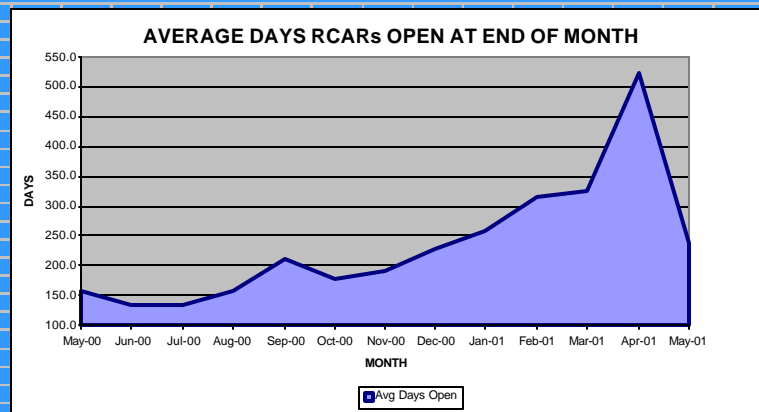
Corrective & Preventive Action Program

John McPherson

NASA

Corrective & Preventive Action Program

Status — John McPherson

OPEN RCARs AT END OF MONTH

Legend: Open DR RCARs, Open QSDN RCARs, Open QualCom RCARs

Open DR RCARs:	7	2	4	4	4	6	6	6	5	3	1	0	3
Open QSDN RCARs:	15	16	16	14	14	12	11	9	8	7	8	4	2
Open QualCom RCARs	0	0	0	0	0	0	0	0	0	0	0	0	0
Total Open RCARs:	22	18	20	18	18	18	17	15	13	10	9	4	5

J. McPherson - 6/1/2001

Open Versus Delinquent RCARs

Legend: Delinquent, Total Open

Delinquent Responses:	3	3	4	0	2	1	1	0	3	0	1	0	1
Total Open RCARs:	22	18	20	18	18	18	17	15	13	10	9	4	5
Percent Delinquent:	14%	17%	20%	0%	11%	6%	6%	0%	23%	0%	11%	0%	20%

HEI/J McPherson 6/1/2001

AVERAGE DAYS RCARs OPEN AT END OF MONTH

Legend: Avg Days Open

Average Days Open:	159	134	136	157	210	177	194	227	257	316	326	524	240

HEI/J McPherson 5/31/2001

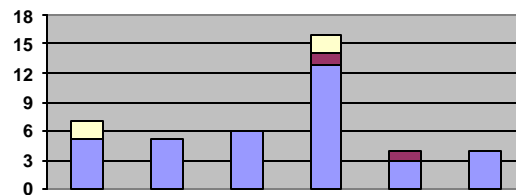|	TOTAL Since 10/97	Made to RCARs	TOTAL Since 12/1/00	Made to RCARs
DR	227	40	20	3
QSDN	102	71	4	1
QualCom	33	0	4	0
TOTAL	362	111	28	4

Preventive Action Program

Status – John McPherson

Corrective/Preventive Action Notifications (CANs) – NONE Issued
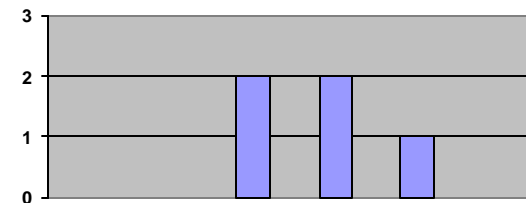
GIDEP and NASA ALERTs and Parts Advisories

ALERTs Distributed By MSFC

	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01
☐ Other NASA	2	0	0	2	0	0
■ MSFC-Initiated	0	0	0	1	1	0
☐ GIDEP-Initiated	5	5	6	13	3	4

MSFC-Impacted ALERT Responses
(i.e., involved component used by MSFC organization or project)

	Dec-00	Jan-01	Feb-01	Mar-01	Apr-01	May-01
Impacted ALERT Responses	0	0	2	2	1	0

MSFC-Initiated ALERTs

NA-MSFC-01-01: Challenger/Silicon Graphics Onyx Off-Line Switching (OLS) Power Supply

NA-MSFC-01-02: Non-Standard Aluminum Alloy Heat Treat (CORUS Aluminum)
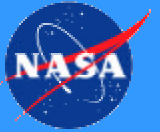
MSFC-Impacted ALERTs

EA-P-98-02B: Wire Out-Gassing	MGBX-TBE
AW3-P-00-01: Halon Fire Extinguisher	ED40
NA-MSFC-01-01: Challenger/Silicon Graphics Onyx OLS Power Supply	ED40
NA-MSFC-01-01: Challenger/Silicon Graphics Onyx OLS Power Supply	Cortez III
C6-P-01-01: Zerk Type Fitting Lubrication	CSOC

Major MSFC ALERT Accomplishments
1. Put web-based ALERT distribution, response, and tracking system on-line
2. Clarified ALERT contacts for MSFC organizations and Projects
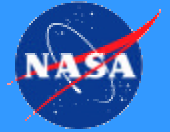3. Trained/oriented users to new application and operation of it

HEI/J. McPherson 06/01/2001

Enclosue 2 page number 26 of 64

New Agenda Items as result of 2000 revision

Mary DeMurray

New Agenda Items as result of 2000 revision
Mary DeMurray

- **Process Performance & Product Conformity**

- **Changes that can affect Management System**

  – MSFC Directives Revision Status for ISO 9001:2000 updates (Mary DeMurray)

  – Continual Improvement Team Status (Jim Carter)

  – Customer Satisfaction Team Status (Steven Noneman)
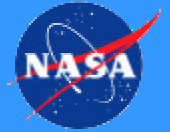
- **Recommendations for Improvement**

New Requirement from revised Standard
Mary DeMurray

- 5.6.2 – Review Input
  - The input to management review shall include information on:
  - a) result of audits
  - b) customer feedback
  - c) process performance and product conformity *
  - d) status of preventive and corrective actions
  - e) follow-up from previous mgt reviews
  - f) changes that could affect the quality mgt system (always done)*, and
 - g) recommendation for improvement (always done)*

* - New requirement of the 2000 revision for Management reviews

Process Performance & Product Conformity – Mary DeMurray

- MSFC does not have an adequate system in place to collect data to report at this time

- Factors of confidence: Flight Readiness Reviews (FRRs), Verification Closure Matrix (by Project), Pre-shipment Reviews, Payload Safety Readiness Review Panels (PSRRP), Acceptances Reviews, etc.

- Several systems report on non-conformity but we can not report on total numbers as a whole

- Recommend an action be given to S&MA to work this item
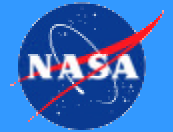
Changes that affect the Management System
Status of 9001:2000 updates for ISO (Mary DeMurray)

	Document Number	Subject	OPR / Designee	Committment Date for Center Review	Document Tracking Status						
					DCB Review 10 days	OPR Resolution 10 days	DCB Mtg Actual	OPR Final Copy 5 days	LS01 2 days	DE01 5 days	DA01 5 days
1	MPD 1280.1	Marshall Mgmt Manual (MMM)	DA01/Mary DeMurray	5/16/01	5/31/01	6/14/01					
2	MPG 1280.1	Management Review	DA01/Mary DeMurray	2/26/01	3/12/01	3/13/01	3/14/01	3/15/01	3/19/01	3/26/01	3/28/01
3	MPG 1280.2	Process Control	ED36/Dawn Cross-Stanley	4/6/01	4/23/01	5/7/01	5/3/01	5/4/01	5/11/01	5/15/01	5/15/01
4	MWI 1280.2	MSFC Quality Comment System	QS40/John McPherson	5/23/01							
5	MWI 1280.3	Corrective/Preventive Action Notification System	QS40/John McPherson	3/15/01	3/27/01	4/10/01	4/4/01	4/6/01	4/10/01	4/16/01	4/16/01
6	MPG 1280.5	MSFC Preventive Action System	QS40/John McPherson	4/6/01	4/18/01	n/a	n/a	4/23/01	4/23/01	4/23/01	4/23/01
7	MPG 1280.7	Servicing	SD40/Tom Dollman	3/29/01	4/18/01	5/2/01	5/16/01	5/23/01	5/25/01	5/31/01	5/31/01
8	MPG 1440.2	MSFC Records Management Program	AD30/Annette Tingle	4/18/01	5/2/01	5/16/01	5/16/01	5/23/01	5/25/01	5/29/01	5/29/01
9	MPG 3410.1	Training	CD20/Pat Schultz	3/1/01	3/21/01	4/4/01	4/4/01	4/20/01	4/24/01	4/24/01	4/24/01
10	MWI 5330.1	Evaluation of Contractors, Suppliers, and Vendors	QS10/Vic Scheuplein	1/17/01	1/31/01	2/14/01	2/22/01	3/2/01	3/22/01	3/26/01	3/26/01
11	MPG 7100.1	Proposal Development Process	RS01/John Howell	4/1/01	3/26/01	4/9/01	4/4/01	4/9/01	4/18/01	4/18/01	4/18/01
12	MWI 7120.1	Project Quality Plan	QS10/Vic Scheuplein	4/1/01	4/12/01	4/26/01	5/3/01	5/10/01	5/11/01	5/15/01	5/15/01
13	MPG 8060.1	Flight Systems Design Control	VS01/Bob McKemie	3/15/01	4/3/01	4/17/01	4/19/01	4/20/01	4/23/01	4/23/01	4/23/01
14	MPG 8060.2	Non-Flight and Non-Facility Design Control	ED38/Scott McCluney	3/16/01	03/26/2001 4/16/01 5/15/01	04/09/2001 4/30/01 n/a	5/30/01	5/31/01	6/1/01	6/4/01	6/4/01
15	MWI 8060.2	Special Test Equipment Design Group Support Request	ED38/Scott McCluney	3/16/01	3/26/01	4/9/01	4/19/01	4/26/01	5/4/01	5/8/01	5/8/01
16	MPG 8730.1	Inspection and Testing	QS10/Vic Scheuplein	4/1/01	4/13/01	4/27/01	5/3/01	5/10/01	5/11/01	5/15/01	5/15/01
17	MPG 8730.5	Control of Inspection, Measuring and Test Equipment	AD23/Michael Haynes	2/15/01	1/29/01	2/9/01	n/a	2/12/01	2/23/01	2/27/01	2/27/01
18	MPG 8823.1	Design Control of Facilities	AD22/Jimmy Guarin	4/19/01	5/8/01	5/22/01	5/30/01	6/6/01			

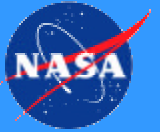# *Continual Improvement Team*

Status Report for the MQC
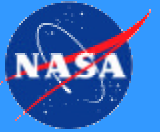## *5-June-2001*
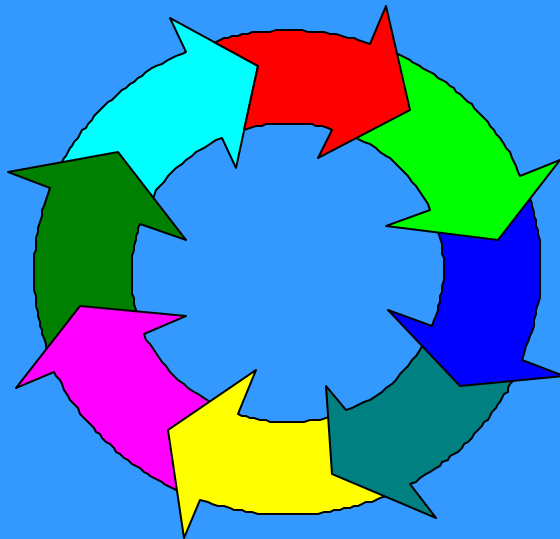
Jim Carter

Deputy Director

Center Operations Directorate

Team Lead

Date: June 4, 2001
Originator: Dawn Cross Stanley

Continual Improvement

- Goal: Recommend Center's approach to satisfy requirements for Continual Improvement contained in ISO 9001:2000

  - *"The organization shall continually improve the effectiveness of the quality management system through the use of the <u>quality policy</u>, <u>quality objectives</u>, <u>audit results</u>, <u>analysis of data</u>, <u>corrective and preventive actions</u> and <u>management review.</u>"*

- Continual Improvement Processes
  - Quality Policy (MPD 1280.1), Audit Results (MPG 1280.6), Corrective and Preventive Actions (MPG 1280.4) and Management Review (MPG 1280.1) are already addressed by the Marshall Management System.
  - Quality objectives are addressed at the Center level. (MPG 1280.1)
  - Directorate/Office level Quality objectives will be addressed (MPG 1130.1, draft MPG 1000.1).
  - The Center level team is addressing the Analysis of Data (MWI 1280.2, MPG 1280.4, MPG 8730.3, MWI 8040.6, MWI 8050.1, MWI 5116.1 and MWI 5330.1)
  - The Center level team has generated a draft MPG 1470.1 (Continual Improvement).
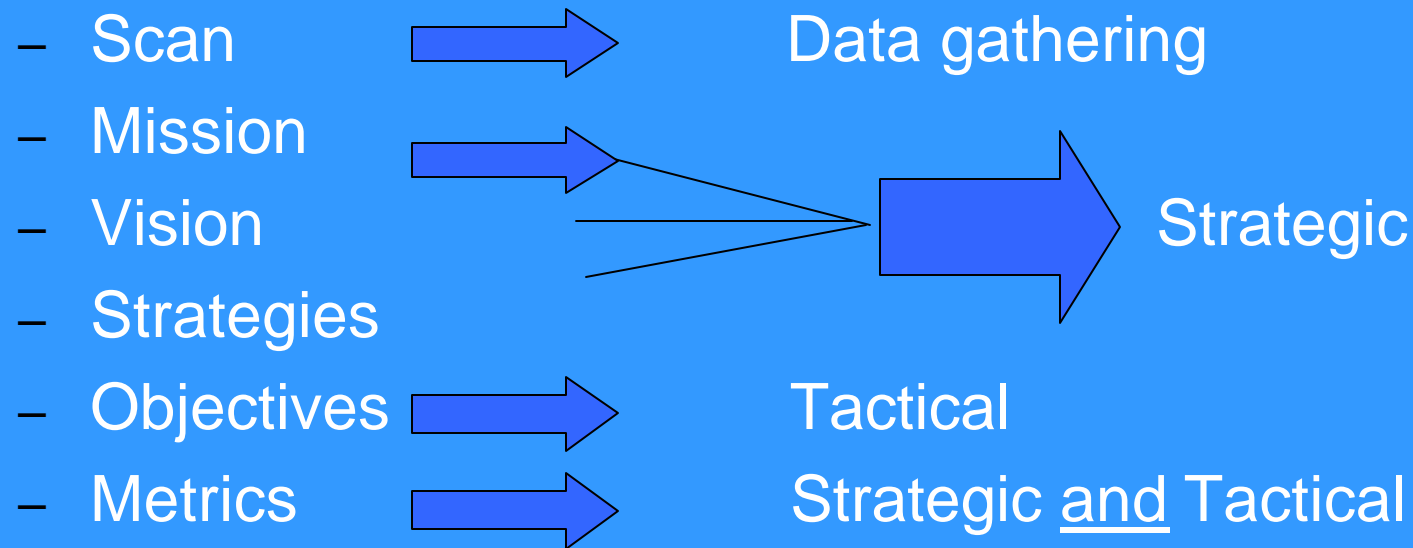
Key Components

- **Key Components**
  - —Developing measurable objectives
  - —Generating metrics
  - —Collecting and analyzing data
  - —Improving based upon analysis of data (such as process improvement, customer satisfaction, audits, problems, growth)

- **Setting a S.M.A.R.T. Objective**
  - – *S*pecific
  - – *M*easurable
  - – *A*ttainable
  - – *R*elevant
  - – *T*ime-based

Metrics

- Elements of a Metrics Discussion
  - Scan $\longrightarrow$ Data gathering
  - Mission
  - Vision $\longrightarrow$ Strategic
  - Strategies
  - Objectives $\longrightarrow$ Tactical
  - Metrics $\longrightarrow$ Strategic <u>and</u> Tactical

- Metric : A means of measuring progress toward a goal; the yardstick

Common Bond

- Why Worry About Mission, Vision, Strategies, and Metrics?

  – Helps to ensure that our objectives are aligned with our environment (the needs of the larger organization)

  – Helps to assure that our activities are aligned with our objectives (doing the right things)

  – Helps to assure that we always know how we're doing (doing things right)

- Common Bond

  – Center Objectives are based upon the Directorate/Office Objectives

  – Directorate/Office Objectives are based upon

    – Agency Strategic Thrusts (Enterprise Plans, Agency Strategic Plan, Agency Annual Performance Plan)

    – Customers

    – Continual Improvement

    – Growth

  – Metrics are based upon SMART objectives.

Implementation

- Continual Improvement Team
  - ✓ Understand ISO 9001:2000 Customer Satisfaction requirements in Draft new MPG titled "Customer Satisfaction"
  - ✓ Understand what MSFC is currently doing regarding Continual Improvement
  - ✓ Learn what has been implemented at other NASA Centers and industry
  - ✓ Review current MMS documents for applicability to this process

- Draft New MPG 1470.1, Continual Improvement
  - – Center-level process, focused by the MQC, that describes how MSFC implements this process with emphasis on data analysis
  - – Maximize use of existing improvement processes
  - – Report / track Continual Improvement metrics in the MQC, MSFC Implementation Plan and MSFC Annual Report
  - – Submit draft by June11 to support the August pre-assessment audit

- Develop Center Continual Improvement Web site

- Present detailed continual improvement, strategic planning and customer satisfaction briefing at directorate/office staff meetings (begin 6/18/01)

- Develop plan for workforce training on continual improvement

Customer Satisfaction Team
Status Report for the MQC
5-June-2001
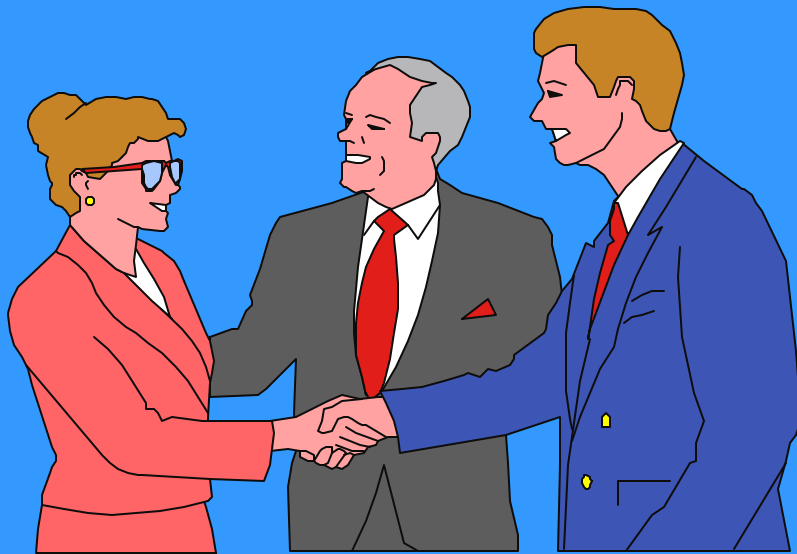
Steven R. Noneman

Flight Projects Directorate

Training and Crew Operations Group

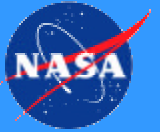# *Customer Satisfaction*

- **GOAL: Assure MSFC meets the ISO 9001:2000 requirements for Customer Satisfaction:**

  - *8.2.1 Customer Satisfaction   (NEW)*

    "As one of the measurements of the performance of the quality management system, the organization shall monitor information relating to customer perception as to whether the organization has met customer requirements. The methods for obtaining and using this information shall be determined."

- **Customer Satisfaction Special Team Objectives:**

  - ✓ Understand ISO9001:2000 Customer Satisfaction requirements

  - ✓ Define types of MSFC customers

  - ✓ Understand what MSFC is doing currently regarding customer satisfaction

  - ✓ Learn what is done at other NASA centers (JSC, KSC, GSFC) and in industry (Boeing, Spacehab) to meet customer satisfaction requirements

  - ❑ Recommend options and action plans for MSFC (planned completion date: June 20)
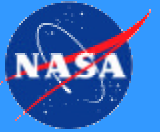
Principles

- **Identify Customers**
  - Definition of a MSFC customer : "*Any entity that receives a MSFC product or service*"
  - List, categorize, characterize MSFC's customers
  - Find out what's important to them and how well they feel their requirements are met
- **Processes/Procedures**
  - Utilize MSFC directorates'/offices' existing customer interfaces and relationships
  - Proactively collect, document, and follow-up on customer comments
  - Set Center-level objectives for customer satisfaction
  - Link to Continual Improvement Process
- **Tools**
  - Use analysis of existing data, direct observation, interviews, focus groups, and/or comments/surveys
  - Select tools/methods appropriate for the customers and providers
- **Metrics**
  - MSFC directorates/offices determine metrics appropriate to their customers
  - Benchmark and regularly review metrics
- **Training**
  - Train workforce on new customer satisfaction processes
  - Customer Service training for people interfacing with customers

Implementation

- Draft new MPG titled "Customer Satisfaction"
  - Center-level process, focused by the MQC, that describes how MSFC monitors information relating to customer perceptions of meeting their requirements
  - Emphasis on customer identification, feedback, metrics, benchmarking, and setting Customer Satisfaction objectives
  - Maximize use of existing MSFC customer interface processes and relationships in the directorates/offices
  - Report/track Customer Satisfaction metrics in the MQC
  - Goal to submit draft by end of June to support the pre-assessment August audit
- Recommend changes to QUALCOMM tool/process
- Revise other affected MMS documents
- Develop plan for workforce training on customer satisfaction
- Establish Customer Satisfaction implementation plan and schedule

Other Activities – Don Miller

- **Metrology Status**
- **DCB Review**

Delinquent Category 1 Metrology as of 05/30/01

Org	12/17/99	8/14/00	9/5/00	10/30/00	11/13/00	12/11/00	02/13/01	3/7/01	05/08/01	05/30/01
AD	No Data	11	11	29	8	6	27	5	22	7
QS	No Data	0	0	0	0	0	0	0	0	0
ED	No Data	72	59	77	47	3	8	18	33	22
FD	No Data	0	0	2	0	0	0	0	0	0
MP	No Data	1	1	0	0	0	0	1	0	0
SD	No Data	2	2	0	0	4	1	1	28	5
TD	No Data	2	4	22	2	0	1	0	0	1
Misc	No Data	0	0	0	0	0	0	0	0	0
Totals	5,500+	88	77	130	57	13	37	25	83	35

Delinquent items shown above are out of a total of 9,728 Category 1 items

DCB Review Participation by Organization

	Feb '00 – Feb '01	March '01	April '01	May '01
Total Number of Directives Reviewed	110	23	14	27
AD01 – Center Operations Dir	83%	83%	100%	100%
CD01 – Customer & Employee Relations Dir	19%	4%	71%	85%
ED01 – Engineering Dir	43%	87%	93%	89%
FD01 – Flight Projects Dir	28%	26%	86%	81%
LS01 – Chief Counsel *	26%	17%	7%	15%
MP01 – Shuttle Projects Office	28%	30%	36%	7%
OS01 – Equal Opportunity Office	8%	48%	86%	78%
PS01 – Procurement Office	78%	95%	100%	89%
QS01 – Safety & Mission Assurance Office	100%	100%	100%	100%
RS01 – Chief Financial Officer	16%	78%	100%	96%
SD01 – Science Dir	42%	100%	86%	89%
TD01 – Transportation Dir	7%	0%	0%	7%
VS01 – Systems Management Office	82%	91%	71%	100%

* - Chief Counsel reviews all directives before final approval

Continual Improvement Presentations
MQC Action # MQC-0041

- **MSFC Metrology Program**
  (Michael Haynes/AD23)
- **MSFC Property Improvement Efforts**
  (Pam Mefford / AD41)
- **Project Documentation System (PDS)**
  (Gary McGriff / ED43)

CONTINUOUS IMPROVEMENT IN THE MSFC CALIBRATION PROGRAM AS A RESULT OF ISO 9001 REGISTRATION

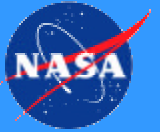Michael Haynes / AD23

MSFC Metrology Program – Michael Haynes

- ● MMI 5300.4H STANDARDS and CALIBRATION was replaced by MSFC – P11.1 CONTROL OF INSPECTION MEASURING and TEST EQUIPMENT.

- ● MMI 5300.4H was widely ignored as there were no audits

- ● MSFC – P11.1 included ISO requirements new to MSFC
  - – Calibration of IM&TE that could effect product quality
  - – Reverse Traceability
  - – Changes to the Recall Program
  - – Written/Controlled Calibration Procedures
  - – Tracking Logs to facilitate assessment of previous inspections when IM&TE found out of tolerance
  - – Record Keeping
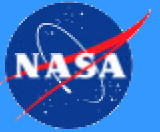
MSFC Metrology Program – Michael Haynes

MSFC – P11.1 – Control of Inspection, Measuring, and Test Equipment was "baselined" and revised 3 times from July 1997 until converted to present format in May 1999.

- Process included 7 Centerwide reviews

- Training provided for individuals and groups

- Audit, audits, audits, audits, audits …..

MSFC Metrology Program – Michael Haynes

Replacement of the NASA Metrology Information System with the Marshall Calibration Management System (9/06/98)

- Scoured and purged database of obsolete Calibration Contacts

- Scoured and purged database of obsolete IM&TE entries

- Itemized monthly Cost Reports starting with October 98

- Deployed MCMS Web page March 1, 1999

- Synchronized database with Cal Contact's equipment lists

- Synchronized ECN numbers in database with bar code labels

- Significant reduction in delinquent Category 1 items

MSFC Metrology Program – Michael Haynes

MSFC – P11.1 converted to MPG 8730.5 Control of Inspection, Measuring, and Test Equipment (5/14/99)

- Seven revisions since baseline
- Includes 8 Center-wide reviews

Increased participation with the NASA Met/Cal Working Group

- MSFC hosted the Met/Cal Working Group in March 2000
- Increased Communications

MSFC Metrology Program – Michael Haynes
### *FUTURE IMPROVEMENTS*

- **Re-compete Contract with Improvements (2002)**
  - Performance Based Contract with strict, well-defined metrics
  - More Responsibility put on Contractor with reductions for poor performance

- **Require Contractor to provide pick-up/delivery listings**

- **Paperless work control within Calibration Facility**

- **Eliminate use of "Shoe" tag (Tag 15) and Form 4316**

- **Eliminate Repair Service "Gap/Overlap" with the ISC**

- **Renovation of collateral equipment (Gilmore/Flow Benches)**

- **Enhance capability to reduce need for offsite work**
  - Users Procuring Equipment with Greater Accuracy

CENTER OPERATIONS
Logistics Services Department – Pam Mefford

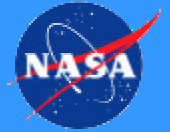**Property Management Continual Improvement (CI)**

Loss Rate
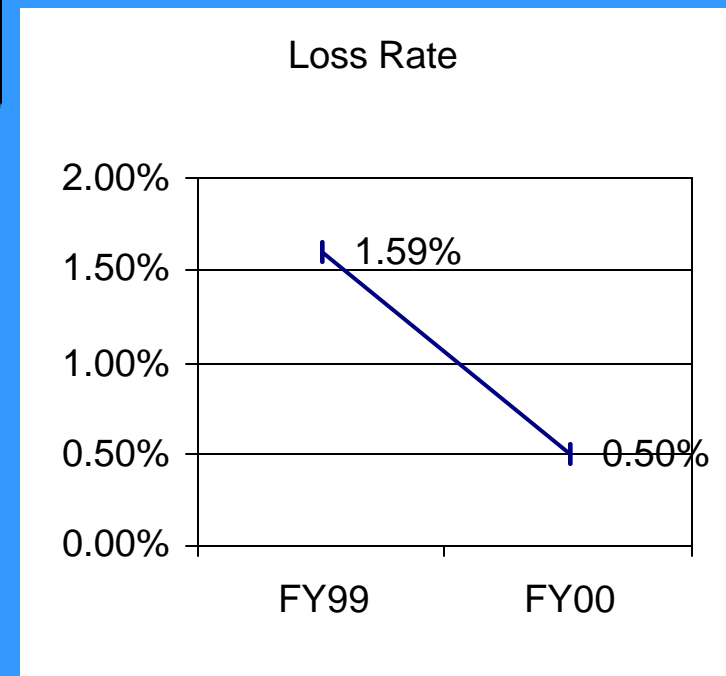
CENTER OPERATIONS - Logistics Services Department
Property Management CI - Pam Mefford

- Property Management procedures were outdated and not consistently followed – last updated in 1989.
  - ISO provided documentation and process discipline.
  - Tiger team reviewed 71 processes & identified 514 solutions.

- Infrequent inventories and poor inventory - high property losses.
  - Instituted Annual Inventories combining efforts with ODIN, PrISMS, CSOC, BOEING, and NEMS.

- Property custodian program was poorly transitioned fostering the belief that users were no longer accountable.
  - Created Property Support Assistants to assist users in their property responsibilities.

- Property tracking data base (NEMS) was not kept up to date.
  - Initiated NEMS War Room effort to ensure a user is assigned to each piece of equipment, to correctly match users with equipment, and to have users sign for and be accountable for equipment.
  - Developed Marshall Asset Management System (MAMS).

CENTER OPERATIONS - Logistics Services Department
Property Management CI - Pam Mefford

- **Survey Process was broken**
  - Revitalized Survey Board with new board members and streamlined the process
  - Board now poised to hold users accountable

- **Mobile Property Pass**
  - Initiated pass to provide users transporting Government property off-Center with badge-size documentation to justify mobile property transports

- **Property Awareness Campaign**
  - Property Awareness Video/booths/displays
  - Web-based Mandatory Property Awareness Training
    - Educated users on property responsibilities/processes
    - 6,500 personnel trained in 23 days with 99% response rate
    - Half-hour IT training saved approximately 125 presenter hours and 3,150 estimated employee hours

# Project Documentation System (PDS)

Gary McGriff

PDS What is it . . .?

- **PDS is an ISO-Compliant <u>Data Management</u> Tool which better enables Program/Project managers to control their project documentation.**

- **PDS is a web based system which allows approved users from anywhere in the world to submit and review documentation in a real time environment.**

- **PDS allows for faster review and approval turn around times, therefore eliminating costly paper review down times.**

- **PDS eliminates the need for "PAPER." All documents are uploaded in any electronic format where they are reviewed and approved and archived as electronic documents.**

- **PDS archives all review, comment, Change Control Board and document approval information in retrievable electronic format.**

PDS

Why . . . ?

The Paper Process
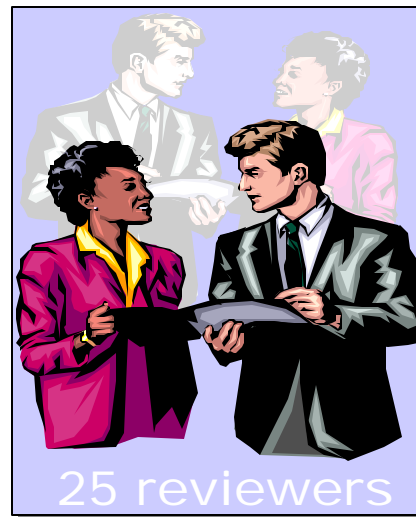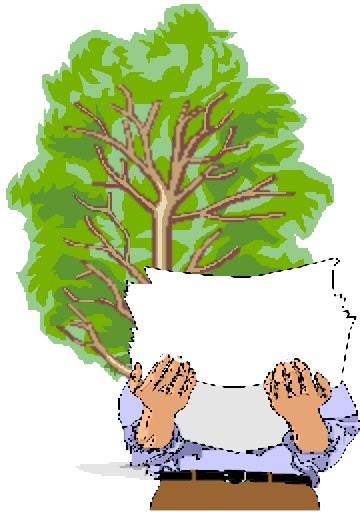
1500

Documents

per YEAR

25 reviewers

Over <u>1 MILLION</u> Pages of Paper
1 FTE of Reproduction Time
Approximately 500 Personal Document Storage Areas
Mail System Burden
Manual Workload Reporting
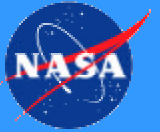Manual Historical Queries
Non-Standard Document Archiving

UPLOAD **REVIEW** **COMMENT**
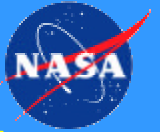
CLOSING REMARKS

Sid Saucier

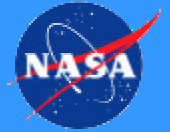# *Recommendations for Improvement*

Sid Saucier

- Continue with the ISO 9001:2000 transition
  - August 28th – 30th
    - Regular Surveillance
    - Pre-assessment to 9001:2000 which will encompass "Full Scope"
  - Registration Audit in November 2001

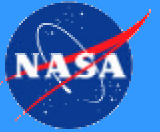# *Recommendations for Improvement (cont)*

Sid Saucier

- Work the issue on Product Conformity and Process Conformance

- Need commitments to auditor participation

- Need to address further improvement of DCB review participation

- Implement Continual Improvement and Customer Satisfaction

Next Surveillance – August 2001
Sid Saucier

- <u>All</u> flight projects are subject to audit
- Elements to be audited
  - 4.1 Management Responsibility
  - 4.3 Contract Review
  - 4.4 Design Control
  - 4.10 Inspection and Testing
  - 4.12 Inspection and Test Status
  - 4.14 Corrective and Preventive Action
  - 4.17 Internal Quality Audits
  - Customer Complaints
  - Use of the NQA Logo

Pre-assessment – August 2001
Sid Saucier

- <u>All</u> MSFC activities are subject to audit

- Emphasis will be on activities providing products/services to external customers

- NQA Transition Audit Checklist has been made available to the Organization ISO Representatives

Challenges Ahead

Sid Saucier

- Continue to develop Continual Improvement and Customer Satisfaction processes and Training

- Readiness for the pre-assessment audit in August 2001